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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER				
KARIML PEGEMAN				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/797,054

**Applicant(s)**

KARAKI, NOBUO

**Examiner**

PEGEMAN KARIMI

**Art Unit**

2629

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/5508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

#### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

#### ***Claim Objections***

3. Claim 16 is objected to because of the following informalities:

The word "substrata" on line 3 of claim 16 must be changed to "substratum".

Appropriate correction is needed.

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 15-16, 19 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the electronic circuit" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recites the limitation "the substratum" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim because independent claim 14 teaches "an original substratum" and "a final substratum".

Claim 16 recites the limitation "the flexible substratum" in line 3. There is insufficient antecedent basis for this limitation in the claim because independent claim 14 teaches "an original substratum" and "a final substratum".

Claim 19 recites the limitation "the flexible substratum" in line 3. There is insufficient antecedent basis for this limitation in the claim because independent claim 17 teaches "an original substratum" and "a final substratum".

Claim 22 recites the limitation "the flexible substratum" in line 3. There is insufficient antecedent basis for this limitation in the claim because independent claim 20 teaches "an original substratum" and "a final substratum".

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 6-8, 10, 12-15, 17, 18, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harasawa (U.S. Patent No. 7,444,772) in view of Masteller (U.S. Patent No. 6,128,678).

**As to claim 1**, Harasawa teaches a sheet computer (Fig. 4), in which electronic circuits (i.e. electronic circuits 8, 9, 10, 11, 17, 18, 16, and etc.) are fabricated on a substratum (the electronic circuits are fabricated on a substratum 20, Fig. 8C), Harasawa does not mention the sheet computer is a asynchronous system. Masteller teaches an asynchronous system without global clocking (col. 2, lines 28-30), (Fig. 5). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to have added the asynchronous system of Masteller to the sheet computer electronic circuit of Harasawa because to facilitate interfacing between multiple non-synchronous systems with a minimum of design and verification (abstract, lines 2-4).

**As to claim 2**, Harasawa teaches a sheet computer (Fig. 4), In which a display circuit (16) and peripheral circuits (i.e. 8, 9, 10, 11, and etc.) connected to the display circuit (the circuits 8, 9, 10, 11, and etc. are connected to the display circuit 16 via circuits 18, 17, and 15) are fabricated on the same substratum (the circuits are located on the substratum of drive section 20), (Fig. 8C), Harasawa does not mention the sheet computer is a asynchronous system. Masteller teaches an asynchronous system without global clocking (col. 2, lines 28-30), (Fig. 5). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to have added the asynchronous system of Masteller to the sheet computer peripheral circuits of Harasawa because to facilitate interfacing between multiple non-synchronous systems with a minimum of design and verification (abstract, lines 2-4).

**As to claims 3 and 7**, Harasawa teaches the peripheral circuits (i.e. 8, 9, 10, 11, and etc.) comprise a plurality of circuits that have ports (e.g. circuits 9 and 14), (circuit 9 has an output port connected to a port of circuit 14), which are connected together by channels (the ports of circuits 9 and 14 are connected to each other by a channel connected between them as can be seen in Fig. 4); and

Harasawa does not mention the ports request or accept data. Masteller teaches the ports that actively request data transfers (port connected to channel 703), (col. 8, lines 9-10) and ports that passively accept data transfer requests (port connected to channel 704), (col. 8, lines 11-12) have different attributes respectively (the attributes of signals 703 and 704 are different because as can be seen in Fig. 3a the request signal 703 is an input signal to a AND gate and the acknowledge signal 704 is an output result of 703, output signal of a threshold gate 708, and a low signal 707 from latch 795). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to have added the request and accept data of Masteller to the display circuit of Harasawa because to facilitate interfacing between multiple non-synchronous systems with a minimum of design and verification (abstract, lines 2-4).

**As to claim 4**, Harasawa teaches the substratum (20) is flexible (col. 5, lines 34-36).

**As to claim 6**, Harasawa teaches a wearable computer, in which electronic circuits are fabricated for wearability's sake (col. 2, lines 22-24),

Harasawa does not mention the sheet computer is a asynchronous system. Masteller teaches an asynchronous system without global clocking (col. 2, lines 28-30), (Fig. 5). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to have added the asynchronous system of Masteller to the sheet computer electronic circuit of Harsawa because to facilitate interfacing between multiple non-synchronous systems with a minimum of design and verification (abstract, lines 2-4).

**As to claim 8**, Harasawa teaches the wearable computer (Fig. 4) is formed on a flexible substratum (20), (col. 5, lines 34-36).

**As to claim 10**, Harasawa teaches a display device (Fig. 4), In which a display circuit (i.e. 16) and peripheral circuits (i.e. 8, 9, 10, 11, and etc.) connected to the display circuit (the peripheral circuits and the panel circuit are connected as can be seen in Fig. 4) are fabricated on the same substratum (the display and peripheral circuits are fabricated on the drive section 20, as can be seen in Fig. 8C),

Harasawa does not mention the sheet computer is a asynchronous system. Masteller teaches an asynchronous system without global clocking (col. 2, lines 28-30), (Fig. 5). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to have added the asynchronous system of Masteller to the sheet computer electronic circuit of Harsawa because to facilitate interfacing

between multiple non-synchronous systems with a minimum of design and verification (abstract, lines 2-4).

**As to claim 12**, Harasawa teaches the peripheral circuits (i.e. 8, 9, 10, 11, and etc.) comprise a plurality of circuits that have ports (e.g. circuits 9 and 14), (circuit 9 has an output port connected to a port of circuit 14),

Harasawa does not mention the ports request or accept data and ports having channels. Masteller teaches the ports that actively request data transfers (port connected to channel 703), (col. 8, lines 9-10) and ports that passively accept data transfer requests (port connected to channel 704), (col. 8, lines 11-12) have different attributes respectively (the attributes of signals 703 and 704 are different because as can be seen in Fig. 3a the request signal 703 is an input signal to a AND gate and the acknowledge signal 704 is an output result of 703, output signal of a threshold gate 708, and a low signal 707 from latch 795). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to have added the request and accept data of Masteller to the display circuit of Harasawa because to facilitate interfacing between multiple non-synchronous systems with a minimum of design and verification (abstract, lines 2-4).

**As to claim 13**, Harasawa teaches an electronic device constitute comprising the display device (Harasawa teaches the electronic device of Fig. 4 comprises a display 16).



**As to claims 14, 17, and 20**, Harasawa teaches a sheet computer fabrication (Fig. 4) method, comprising the steps of:

fabricating circuit chips (i.e. circuits 8, 9, 10, 11, 12, and etc. are fabricated into an original substratum 20, Fig. 8C),

transferring the circuit chips thus formed to a final substratum (the scanning and data driver send a signal (applying voltage) to cause the light emitting layer to emit at the intersection of the electrode groups), (the panel 16 consists of a transparent resin substrate); and

separating the circuit chips (the circuit chips are separated from each other on the substrate 20 as can be seen in Fig. 4 and the flexible spacer 22 is located between the two layers of 20 and 16 as can be seen in Fig. 8C) thus transferred to the final substratum from the original substratum (The applied voltage from the substrate 20 is transferred to the panel display which is placed on a transparent resin substrate, col. 3, lines 56-66 and col. 4, lines 1-4, teaches the transfer of circuit between the circuits on substratum 20 and panel 16).

Harasawa does not mention the sheet computer is an asynchronous system. Masteller teaches an asynchronous system without global clocking (col. 2, lines 28-30), (Fig. 5). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to have added the asynchronous system of Masteller to the sheet computer electronic circuit of Harasawa because to facilitate interfacing

between multiple non-synchronous systems with a minimum of design and verification (abstract, lines 2-4).

**As to claim 15**, Harasawa teaches the substratum is flexible (20), (col. 5, lines 34-36).

**As to claims 18 and 21**, Harasawa teaches the final substratum is flexible (col. 3, line 56).

7. Claims 5, 9, 16, 19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harasawa in view of Masteller, and further in view of Koyama (U.S. Pub. No. 2001/0043168).

**As to claims 5, 9, 16, 19, and 22**, Harasawa does not mention the electronic circuit is stacked in multiple layers on the substratum. Koyama teaches the electronic circuit is stacked in multiple layers on the substratum (Fig. 6A, Fig. 6B and Fig. 8 shows the electronic circuits are stacked in a multiple layers). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to have added the multiple layer and the stacking of the layers of Koyama to the electronic circuits of Harasawa because a device having high reliability, and in which good image display is possible, can therefore be obtained.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harasawa in view of Masteller, and further in view of Fitch (U.S. Patent No. 5,912,653).

**As to claim 11**, Harasawa teaches a display device (Fig. 4), in which a display circuit (16) and peripheral circuits (i.e. 8, 9, 10, 11, and etc.) connected to the display circuit (as can be seen in Fig. 4 the drivers and panel circuits are connected to each other) are fabricated on a substratum (as can be seen in Fig. 8C the panel and peripheral circuits are fabricated on the drive section substrate 20),

Harasawa does not mention the sheet computer is a asynchronous system. Masteller teaches an asynchronous system without global clocking (col. 2, lines 28-30), (Fig. 5). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to have added the asynchronous system of Masteller to the sheet computer electronic circuit of Harasawa because to facilitate interfacing between multiple non-synchronous systems with a minimum of design and verification (abstract, lines 2-4).

Harasawa and Masteller do not mention the display device is a liquid crystal display. Fitch teaches a liquid crystal display (12) is used for the jacket. Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to have added the liquid crystal display of Fitch instead of the display device of Harasawa as modified by Masteller because the liquid crystal display can use very small amount of electric power.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Weiner (U.S. Patent No. 7,429,965) teaches an apparatus for the display of embedded information.

Farrell (U.S. Patent No. 6,729,025) teaches a method of manufacturing a fabric article to include electronic circuitry and an electrically active textile article.

Ota (U.S. Patent No. 6,490,402) teaches a flexible flat color display.

### ***Inquiry***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PEGEMAN KARIMI whose telephone number is (571)270-1712 and direct fax number is (571)270-2712. The examiner can normally be reached on Monday-Thursday 9:00am - 5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571) 272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 2629  
January 29, 2009

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